

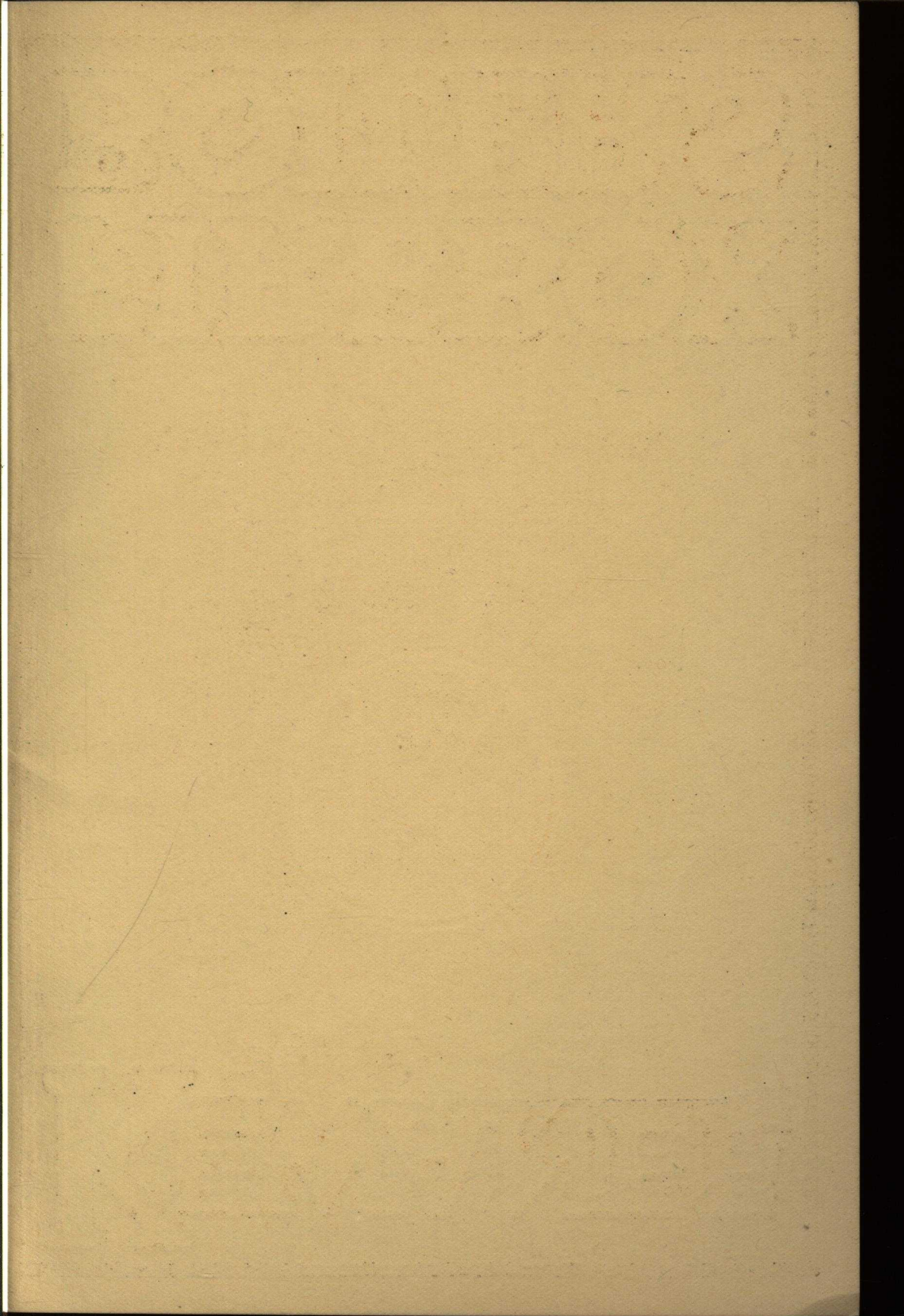
KEWANEE

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Catalog 76

FIREBOX BOILERS



KEWANEE

Firebox Boilers

Catalog No. 76

May, 1921



Separate Catalogs on KEWANEE Steel Water Heating
Garbage Burners, Water Heaters and Tanks, KEWANEE
Power Boilers and KEWANEE Radiators, Sent on Request

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KEWANEE BOILER COMPANY

KEWANEE, ILLINOIS

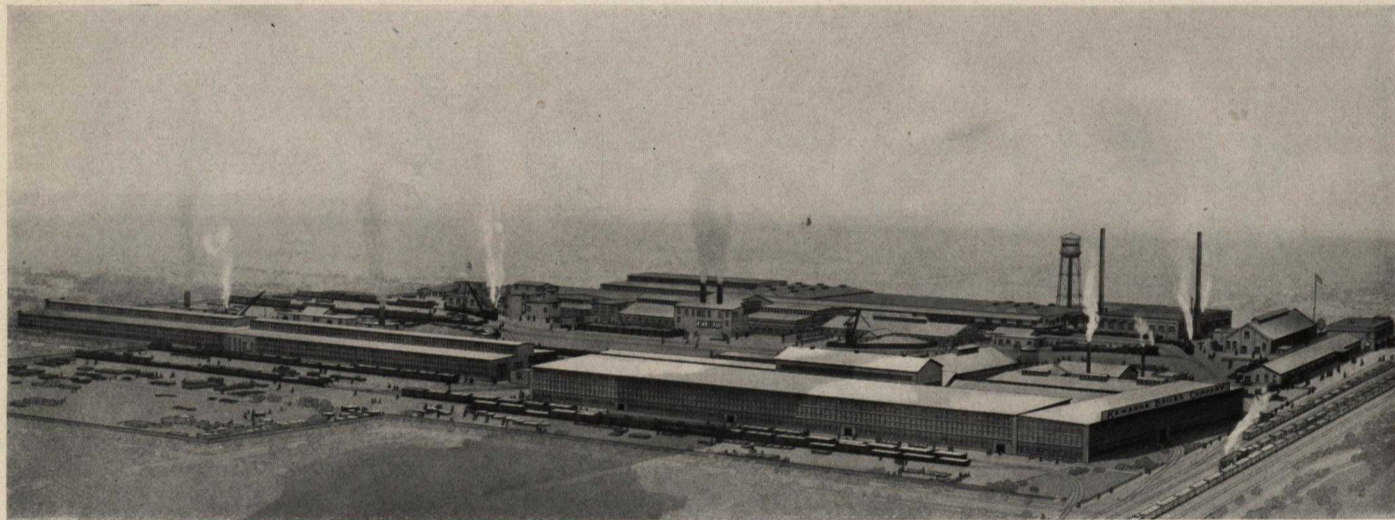
Power Boilers, Water Heating Garbage Burners,
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KEWANEE BOILER COMPANY
1921

All Kewanee Boilers Are Built of Steel

KEWANEE Boilers are built of steel according to the rules of construction adopted by the American Society of Mechanical Engineers, known as the A. S. M. E. code. Every boiler bears the official stamp or symbol of the code, showing the working pressure permitted by the code together with the official stamp of the manufacturer. Seventeen states and a great number of large cities have adopted inspection laws or ordinances requiring A. S. M. E. code construction, and in anticipation of its general adoption all KEWANEE Boilers are so constructed.

In addition to the above, we have embodied in the design and construction of these boilers methods which are not only suggested by modern engineering knowledge but also by the results of thirty-five years of practical experience and study—the use of riveted joints, the staying of flat surfaces, arrangement of tubes with relation to each other and to the boiler shells allowing free circulation, together with ample steam space to insure dry steam and a steady water level; also handhole and manhole plates for cleaning and inspection. In fact every condition and advantage for the safe and economic operation of a power boiler is exemplified in this product.

Equipment

THE list price on all brick-set boilers includes Century rocking grates, fire-door and frame, ash-pit front with ash door and draft doors, the necessary soot doors, bearing plates with expansion rollers for supporting boilers upon brick pier at rear of boiler shell. Firing tools include hoe, poker, slice bar and tube scraper.

Rear flue clean-out doors are furnished with all smokeless boilers, brick-set type, and for size 17 and larger boilers, straight draft type.

With all KEWANEE Smokeless Boilers, brick-set type, we include extra clean-out doors and frames for side and rear walls.

Back arch bars and manhole shield are furnished with all brick-set boilers. Special fire-brick tile, to fit header, is furnished with all smokeless boilers.

With portable type boilers we furnish all castings for erecting the boilers as illustrated on pages 16, 17, 24, and 25, including cast-iron ash-pit base for the smaller sizes.

The trimmings for steam boilers are listed separately, consisting of water column with water gauge and three compression gauge cocks; steam gauge with syphon and cock; pop safety valve; and KEWANEE Automatic Draft Regulator with lever, weights, pulleys, chains, and angle valve.

No trimmings of any kind are furnished with water boilers.

Sufficient handholes are provided for cleaning purposes, and in brick-set boilers 42 inches in diameter and larger, and in portable boilers 54 inches and larger, manholes are included.

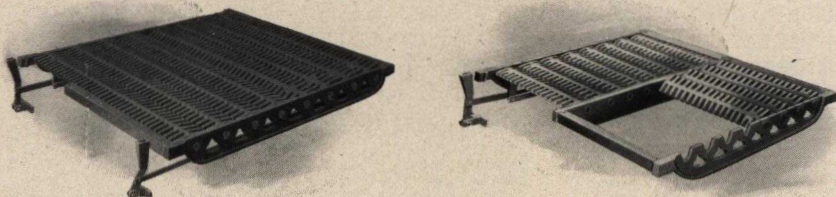
Kewanee Boilers Are Honestly Rated

THE rated capacity of KEWANEE Boilers, as printed in this book, is the number of square feet of direct radiating surface or equivalent which the boilers will carry, if sufficient radiation is installed to heat the building to the required temperature.

The ratings are based on a standard for steam of two pounds pressure at the boiler, and for water on a mean temperature of 180 degrees Fahrenheit as the water leaves the boiler.

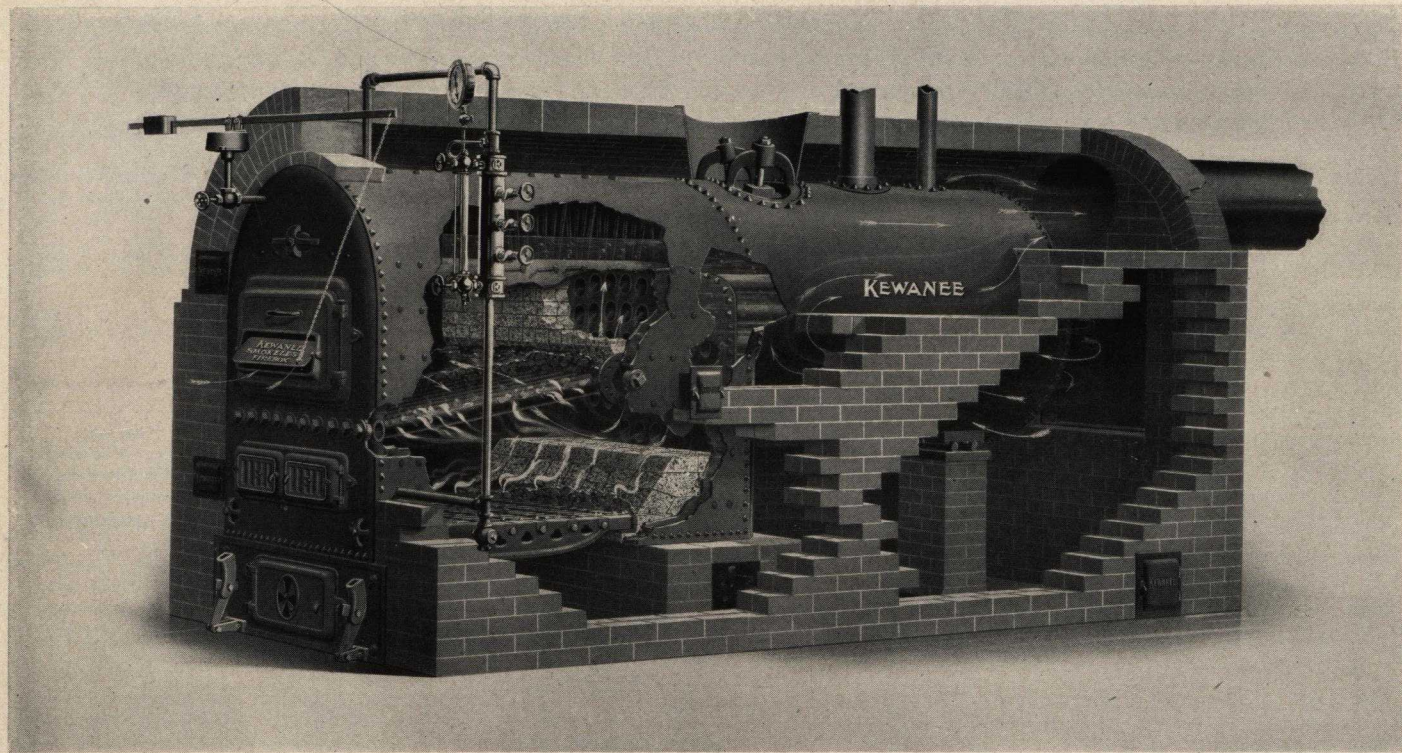
The Century Rocking Grate

THE Century Rocking Grate is furnished with all KEWANEE Boilers. It is made of the best selected iron, is heavy, strong, and durable, and has an air space of 55 percent, which renders it most efficient.



THE style of grate shown at the left is furnished with boilers sizes 12, 112, 412, 312, and smaller. In those having a fire-box longer than 38 inches, the front half of the grate operates independently of the rear half.

The two-section grate shown at the right is furnished with boilers sizes 13 and larger; sizes 113 and larger in the brick-set smokeless; sizes 413 and larger in the straight draft portable; and sizes 313 and larger in the smokeless portable. Each section is operated independently.



**KEWANEE SMOKELESS
BOILER**—*Brick-set—for Heating*

SECTIONAL view, showing arrangement of double grates and long travel of gases. Recent tests of Kewanee Smokeless Boilers, made by a recognized boiler authority, prove that when burning soft coal, under conditions similar to those prevailing in most large buildings, their efficiency ranges from 73 to 81 percent. The ordinary type heating boiler averages about 60 percent efficiency.

Price List KEWANEE SMOKELESS BOILERS—Brick-set Type
These Boilers will heat all the radiation shown by their capacity

*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Capacity, Steam sq. ft.	2600	3100	3600	4000	4700	5500	6500	7500	8500	10000	11500	13000	14000	16000
Capacity, Water sq. ft.	4300	5100	5900	6600	7800	9100	10700	12400	14000	16500	19000	21500	23100	26400
Code, Steam Boiler	Heck	Heed	Help	Hern	Hen	Henn	Herd	Herf	Herp	Herg	Hero	Herod	Heron	Hery
Code, Water Boiler	Hind	Hinge	Hint	Hip	Hire	Hisk	Hiss	Hit	Hitch	Hive	Hiz	Hilt	Hing	Hick
List Price for Steam Boilers, Maximum Working Pressure of 15 Pounds; Also for Water Boilers. Castings and Tools Included	\$1080	\$1155	\$1230	\$1385	\$1510	\$1635	\$1960	\$2175	\$2700	\$2920	\$3350	\$3650	\$4050	\$4350
Extra for Steam Trimmings	\$45	\$45	\$55	\$90	\$90	\$95	\$100	\$115	\$135	\$155	\$165	\$165	\$165	\$200
Approximate Weight, Pounds	6200	6800	7300	8500	9100	9800	12500	13900	16400	18000	20400	22100	23800	25800

Openings in fire-box for coil \$4.00 list per boiler.

Prices for steam boilers for working pressure more than fifteen pounds but not exceeding one hundred pounds will be furnished upon application.

CHIMNEY CAPACITY

A correct chimney is absolutely necessary to a boiler. No boiler, no matter how scientifically and carefully constructed, will work properly unless the chimney is the proper size and height. We publish in tables of specifications a set of figures regarding the area and height of chimneys required with KEWANEE Boilers of different capacities.

Specifications **KEWANEE SMOKELESS BOILERS**—Brick-set Type
These Boilers will heat all the radiation shown by their capacity

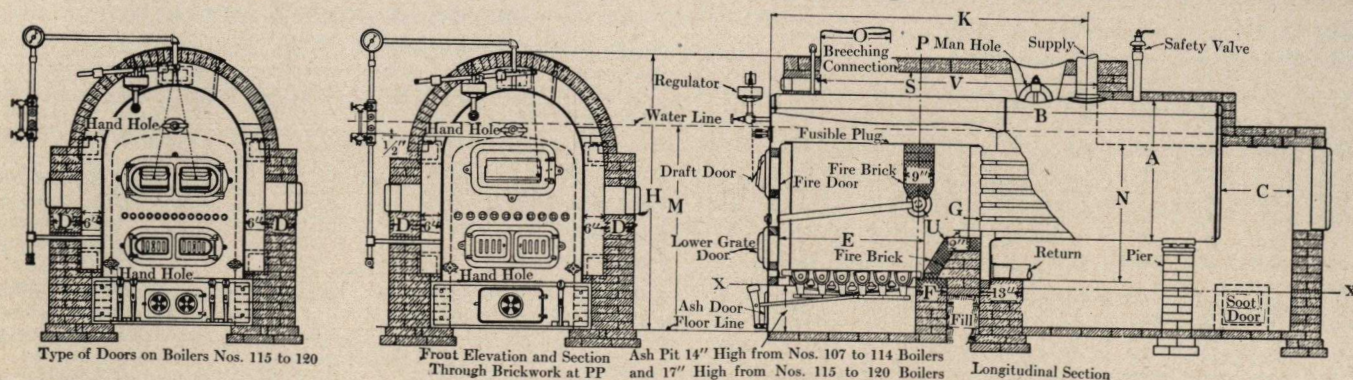
*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Diameter of Boiler in.	42	42	42	48	48	48	54	54	60	60	66	66	72	72
Length of Boiler Over-all ft. in.	9-10	11-4	12-10	12-4	13-10	15-4	15-9	18-3	17-10	20-4	18-4	20-4	18-4	20-4
Width of Fire-box in.	36	36	36	42	42	42	48	48	53	53	59	59	65	65
Length of Fire-box in.	54	60	66	66	72	78	78	84	90	96	90	96	96	102
Heating Surface sq. ft.	297	345	393	425	480	535	628	741	839	973	1064	1194	1291	1456
Area of Upper Grate sq. ft.	8.6	10.1	11.4	11.8	13.2	15.0	17.1	19.1	21.1	23.3	23.5	25.9	28.5	31.3
Diameter of Breeching in.	22	22	24	24	27	27	30	30	34	34	36	36	38	38
Diameter of Stack in.	20	20	22	22	24	24	28	28	32	32	34	34	36	36
Minimum Height of Stack ft.	50	50	50	50	55	55	60	60	60	60	70	70	70	70
Diameter of Breeching for Two Boilers . . . in.	28	30	32	32	34	34	36	38	42	42	44	45	48	50
Diameter of Stack for Two Boilers . . . in.	26	28	30	30	32	32	34	36	38	38	40	42	44	46
Minimum Height of Stack for Two Boilers . . ft.	60	60	60	60	60	60	70	70	70	75	75	80	80	80
Size of Steam Opening in.	6	6	6	6	6	7	7	7	7	7	8	8	8	8
Size of Return in.	4	4	4	4	4	5	5	5	5	5	6	6	6	6
Size of Safety Valve in.	2½	2½	3	3½	3½	4	4	4½	4½	Two 3½	Two 4	Two 4	Two 4	Two 4½
Height of Water-line in.	58½	58½	58½	61	61	61	66	66	75	75	80	80	85½	85½
Height from Floor to Top of Brickwork . . . in.	83	83	83	90	90	90	96	96	108	108	114	114	120	120

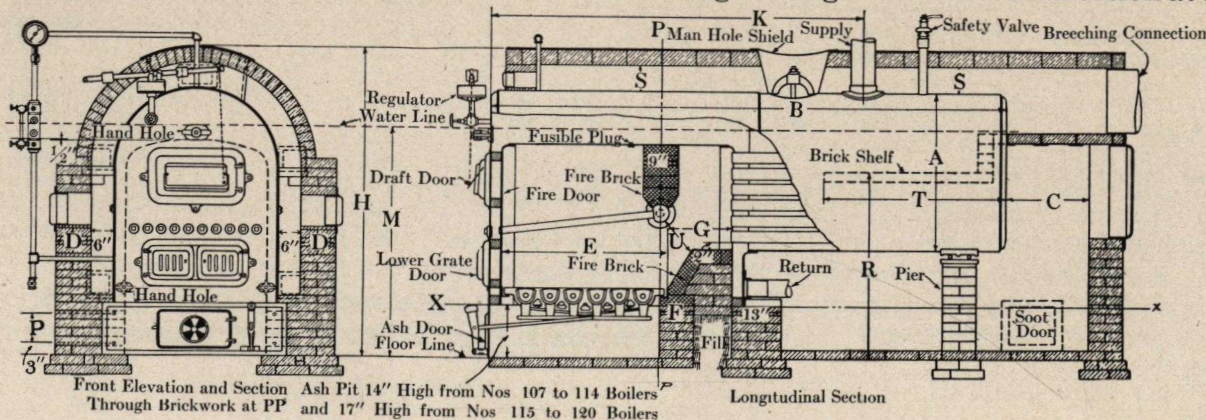
For setting plans and other measurements see pages 8 and 9.

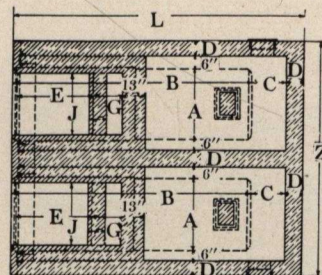
Every Kewanee Boiler made is built of steel.

Section KEWANEE SMOKELESS BOILER—Brick-set—Showing Setting with Stack Connection at Front

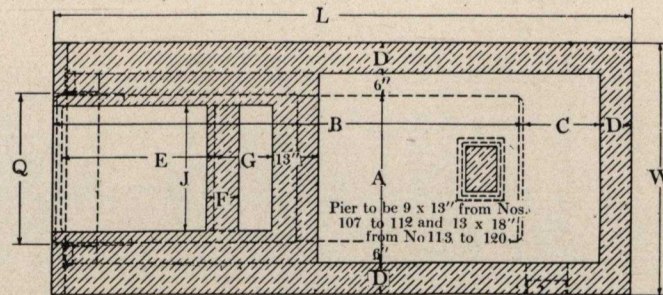


Section KEWANEE SMOKELESS BOILER—Brick-set—Showing Setting with Stack Connection at Rear





Double Setting Foundation Plan at XX



Foundation Plan at XX

Number of Boiler	107	108	109	110	111	112	113	114	115	116	117	118	119	120
A—Diameter Boiler in.	42	42	42	48	48	48	54	54	60	60	66	66	72	72
B—Length Boiler ft. in.	9-10	11-4	12-10	12-4	13-10	15-4	15-9	18-3	17-10	20-4	18-4	20-4	18-4	20-4
C—Rear Space in.	22	22	22	22	22	22	24	24	24	24	24	24	24	28
D—Thickness Wall in.	9	9	9	9	9	9	13	13	13	13	13	13	13	13
E—Length Grate in.	37	43	49	43	49	55	55	61	61	67	61	67	67	73
J—Width Ash-pit in.	37	37	37	43	43	43	49	49	54	54	60	60	66	66
F—Thickness Bridge Wall in.	9	9	9	13	13	13	18	18	18	18	18	18	18	18
G—Grate to Tube Sheet in.	17	17	17	23	23	23	23	23	29	29	29	29	29	29
U—Header to Bridge Wall in.	9	10	12	10	11	12½	13	14	14	15½	14	15½	16	17
H—Height Brickwork in.	83	83	83	90	90	90	96	96	108	108	114	114	120	120
K—Location Steam Supply ft. in.	7-6	8-0	8-9	8-10	9-8	10-4	11-0	11-6	11-10	13-0	12-0	13-0	12-1	13-1
L—Length Over-all ft. in.	12-5	13-11	15-5	14-11	16-5	17-11	18-10	21-4	20-11	23-5	21-5	23-5	21-9	23-9
M—Height Water-line in.	58½	58½	58½	61	61	61	66	66	75	75	80	80	85½	85½
N—Height Side Flue in.	39	39	39	42	42	42	48	48	51	51	58	58	63	63
O—Diameter Breeching Connection . . . in.	22	22	24	24	27	27	30	30	34	34	36	36	38	38
R—Height Brick Shelf in.	50	50	50	53	53	53	56	56	63	63	66	66	69	69
S—Top Flue Space in.	7	7	7	8	8	8	8	8	10	10	10	10	10	10
T—Length Brick Shelf in.	35	48	60	54	66	80	84	102	90	108	90	108	84	102
V—Length of Arch ft. in.	7-0	7-6	8-0	8-1	8-11	9-9	10-0	10-6	10-10	12-0	11-0	12-0	11-1	12-1
W—Width Over-all ft. in.	6-0	6-0	6-0	6-6	6-6	6-6	7-8	8-2	8-2	8-8	8-8	8-8	9-2	9-2
Z—Width Double Setting ft. in.	11-3	11-3	11-3	12-3	12-3	12-3	14-3	14-3	15-3	15-3	16-3	16-3	17-3	17-3
*Number Common Brick	2600	2850	3100	3700	4000	4300	6000	6600	7350	7900	7800	8300	8700	9300
Number Fire Brick	100	100	100	130	130	130	155	155	215	215	250	250	310	310
*Common Brick for Two Boilers	4500	4950	5350	6500	7000	7550	10500	11500	12750	13700	13200	14200	15000	16000

*Foundations not included.

Key letters N and V apply only to boiler settings with breeching connection at rear. Key letters R and T apply only to boiler settings with breeching connection at rear.

For anchor bolt centers for ash-pit front, letters P and Q, see pages 14 and 15.

KEWANEE BOILERS

Straight Draft—Brick-set Type

THE KEWANEE Boiler Company is approaching its thirty-fifth year in the making of steam heating, fire-box boilers and its product now is universally recognized as the standard fire-box boiler for low pressure heating purposes.

The KEWANEE Smokeless Boiler is designed and constructed to efficiently burn any kind of coal. Many of these boilers are operating and have been for years, being fired with the very poorest grades of coal and causing no smoke whatever. The many splendid installations are proof of the durability of the KEWANEE Smokeless Boiler and the increasing demand we believe is further proof of its ability to burn any kind of coal without causing smoke, and maintain the highest possible heating efficiency.

The Straight Draft Boiler has proven to be exceptionally long-lived, as many of the first which were built thirty-five years ago are still in operation and giving good service.

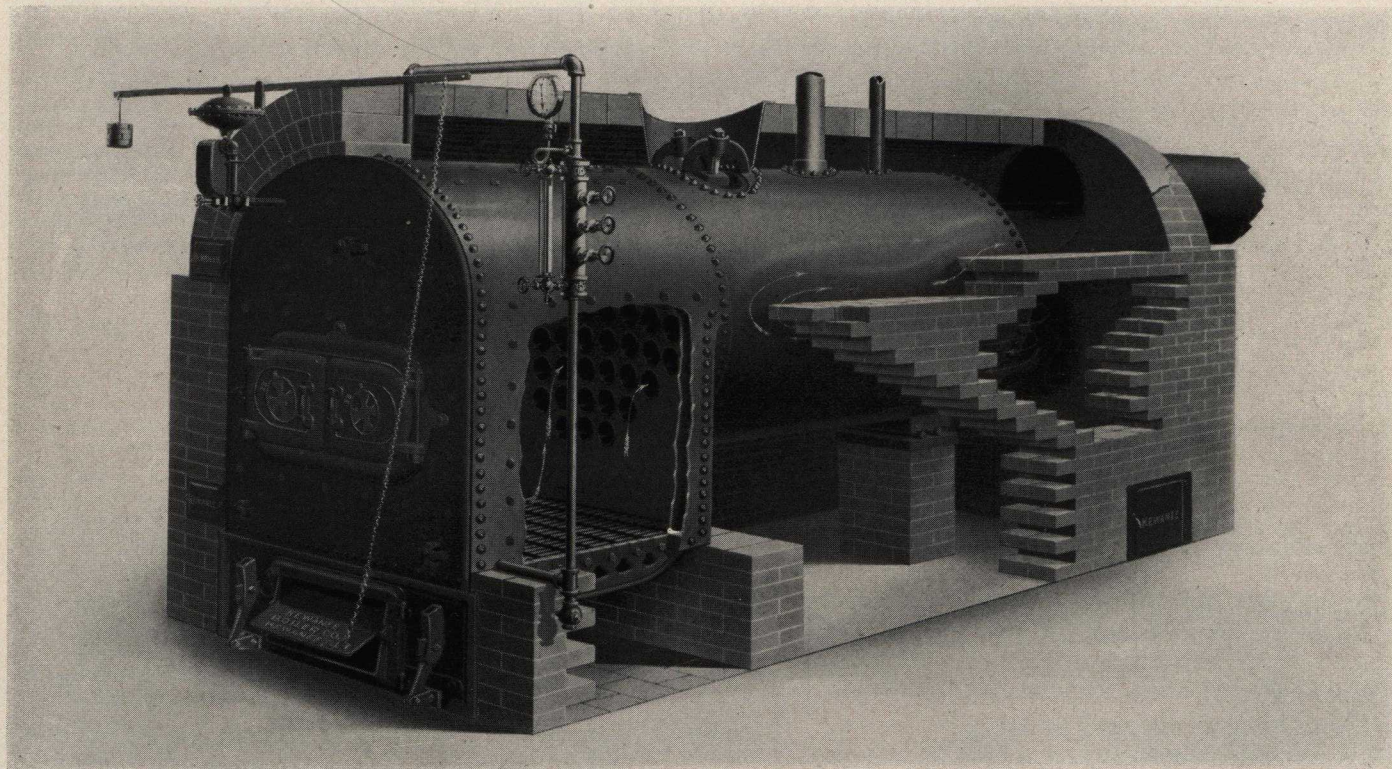
High Fire-boxes

THE height of the fire-box of a boiler is a most important factor. Burning fuel must have air—and lots of it. If it doesn't get enough it won't burn properly. And for good and economical results a generously high fire-box beats any kind of air-blast contrivance ever invented.

KEWANEE Boilers have amply high fire-boxes; plenty of room in the combustion chamber for air—and plenty of room for the air and heat-giving gases to mix. That is just one reason why they are so easy on the coal bill.

Ample Heating Surface

THE heating surface of a KEWANEE Boiler is that portion of the boiler containing water, against which the fire and gases come in contact. This includes the fire-box of the boiler—which is surrounded by water; the tubes; and the outside surface of the cylinder or shell, below the water-line. So KEWANEE Boilers are practically all heating surface.



KEWANEE BOILER
Brick-set—for Heating

Price List **KEWANEE BOILERS**—Brick-set Type

These boilers will heat all the radiation shown by their capacity

*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20
Capacity, Steam sq. ft.	900	1050	1200	1400	1700	2000	2600	3000	3500	4000	4500	5500	6500	7500	8700	10000	11000	12000	14000
Capacity, Water sq. ft.	1500	1700	2000	2300	2800	3300	4300	5000	5800	6600	7400	9100	10700	12400	14400	16500	18200	19800	23100
Code, Steam Boiler	Dagon	Daft	Daub	Dawn	Dairy	Damp	Dash	Data	Dated	Dead	Dear	Debut	Defer	Devil	Deist	Delve	Demit	Dense	Dart
Code, Water Boiler	Dirty	Deter	Dingy	Dirge	Darn	Debar	Drill	Draft	Dregs	Drink	Debit	Decay	Dusk	Decot	Decry	Deffux	Delta	Demon	Dental
List Price for Steam Boilers Maximum Working Pressure of 15 Pounds; also for Water Boilers. Castings and Tools Included	\$445	\$500	\$555	\$610	\$665	\$720	\$900	\$980	\$1050	\$1150	\$1250	\$1570	\$1760	\$2200	\$2425	\$2750	\$3100	\$3400	\$3700
Extra for Steam Trimmings	\$35	\$35	\$35	\$35	\$35	\$40	\$40	\$50	\$50	\$80	\$80	\$95	\$95	\$125	\$125	\$150	\$160	\$160	\$160
Rear Flue Clean-out Doors and Frame	\$18	\$18	\$18	\$22	\$22	\$22	\$26	\$26	\$32	\$32	\$32	\$38	\$38	\$45	\$46	Included	Equip	in Re	gular
Approximate Weight, Pounds	2400	2700	2900	3300	3700	4200	5400	6000	6700	7300	8000	10600	11900	14400	16000	17800	19100	21700	23500

Openings in fire-box for coil \$4.00 list per boiler.

Prices for steam boilers for working pressure more than fifteen pounds but not exceeding one hundred pounds will be furnished upon application.

*Kewanee Boilers can be found heating the best of buildings from New
York to San Francisco and from Montreal as far south as heat is required.*

Specifications **KEWANEE BOILERS**—Brick-set Type

These Boilers will heat all the radiation shown by their capacity

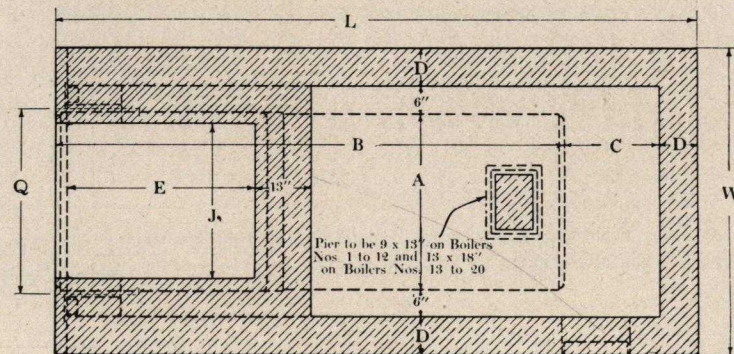
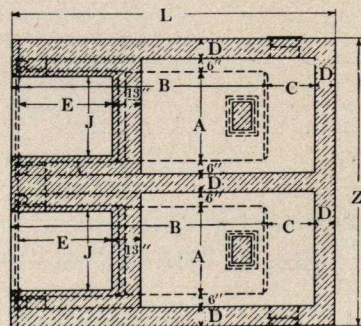
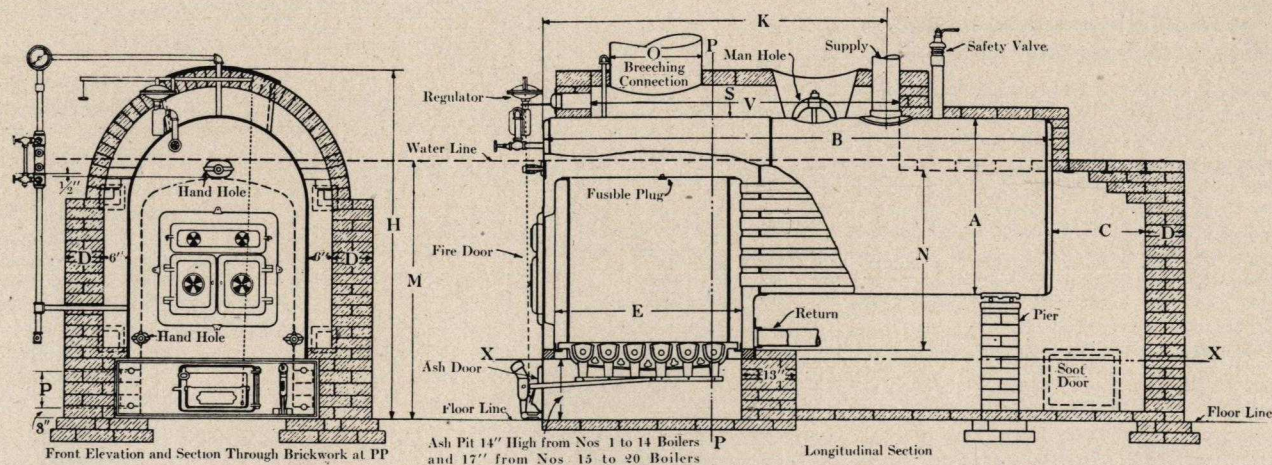
*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20
Diameter of Boiler in.	30	30	30	36	36	36	42	42	48	48	48	54	54	60	60	66	66	72	72
Length of Boiler Over-all ft.	6½	7½	8½	7½	9	10½	10	11½	10½	12	13½	14	16½	15½	18	16	18	16	18
Width of Fire-box in.	24	24	24	30	30	30	36	36	42	42	42	48	48	53	53	59	59	65	65
Length of Fire-box in.	26	32	38	32	38	44	44	50	44	50	56	56	62	62	68	62	68	68	74
Height of Fire-box in.	35	35	35	38	38	38	41	41	44	44	44	49	49	54	54	59	59	64	64
Heating Surface sq. ft.	113	131	147	180	215	250	305	350	368	420	472	560	673	743	873	954	1080	1167	1329
Area of Grate sq. ft.	4.4	5.4	6.4	6.8	8.0	9.3	11.1	12.6	12.9	14.7	16.5	18.8	20.8	22.9	25.1	25.5	28.0	30.8	33.5
Diameter of Breeching in.	12	14	16	16	18	18	20	22	22	24	24	28	28	32	32	32	32	36	36
Diameter of Stack in.	12	12	14	14	16	16	18	20	20	22	22	26	26	30	30	30	30	34	34
Minimum Height of Stack ft.	40	40	40	40	40	45	45	45	45	50	50	50	50	55	55	60	60	60	60
Diameter of Breeching, Two Boilers . in.							28	32	32	32	34	36	36	40	40	40	42	44	46
Diameter of Stack, Two Boilers . . in.							26	28	28	30	32	34	34	36	36	36	38	40	42
Minimum Height of Stack, Two Boilers ft.							50	50	50	50	50	55	60	60	70	70	70	70	70
Size of Steam Opening in.	4	4	5	5	6	6	6	6	6	6	7	7	7	7	7	8	8	8	8
Size of Return in.	2½	2½	3	3	3	3	4	4	4	4	5	5	5	5	5	6	6	6	6
Size of Safety Valve in.	1½	2	2	2	2	2½	2½	3	3	3½	3½	4	4	4½	4½	Two 3½	Two 4	Two 4	Two 4
Height of Water-line in.	52	52	52	55	55	55	58	58	61	61	61	66	66	75	75	80	80	85	85
Height from Floor to Top of Brick Work in.	70	70	70	77	77	77	83	83	90	90	90	96	96	108	108	114	114	120	120

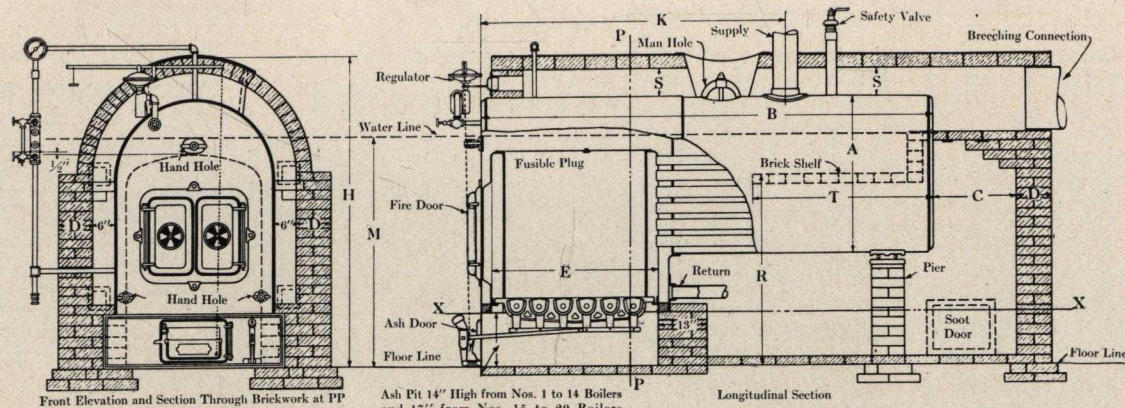
For setting plans and other measurements see pages 14 and 15.

Many of the first Kewanee Boilers made are still on the job—35 years old.

Section KEWANEE BOILER—Brick-set—Showing Setting with Stack Connection at Front



Section KEWANEE BOILER—Brick-set—Showing Setting with Stack Connection at Rear



Ash Pit 14" High from Nos. 1 to 14 Boilers
and 17" from Nos. 15 to 20 Boilers

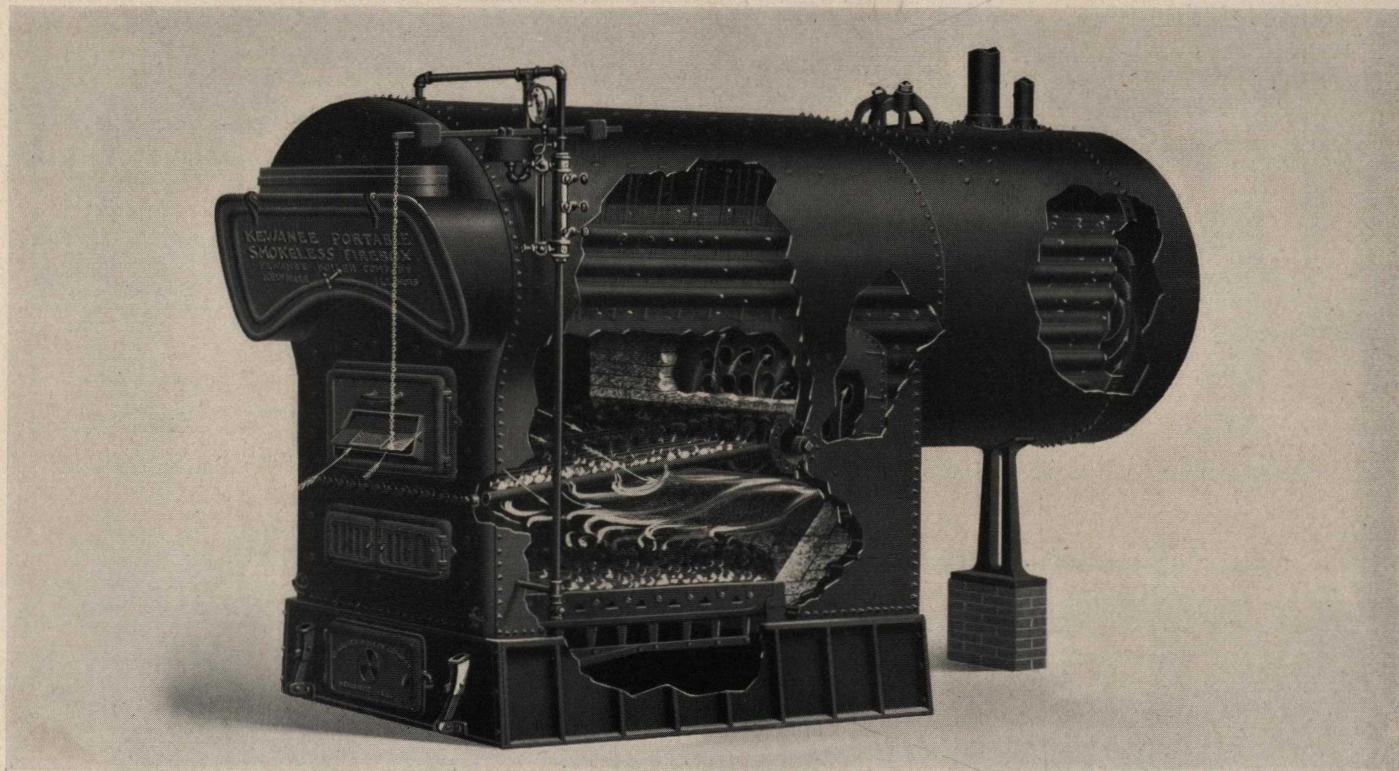
Number of Boiler	1	2	3	4	5	6	8	9	10	11	12	13	14	15	16	17	18	19	20
A—Diameter of Boiler in.	30	30	30	36	36	36	42	42	48	48	48	54	54	60	60	66	66	72	72
B—Length of Boiler ft. in.	6-5	7-6	8-6	7-6	9-0	10-6	10-0	11-6	10-6	12-0	13-6	13-11	16-5	15-6	18-0	16-0	18-0	16-0	18-0
C—Rear Space in.	17	17	17	17	17	17	22	22	22	22	22	24	24	24	24	24	24	28	28
D—Thickness Wall in.	9	9	9	9	9	9	9	9	9	9	9	13	13	13	13	13	13	13	13
E—Length Grate in.	26	32	38	32	38	44	44	50	44	50	56	56	62	62	68	62	68	68	74
J—Width Ash-pit in.	25	25	25	31	31	31	37	37	43	43	43	49	49	54	54	60	60	66	66
H—Total Height in.	70	70	70	77	77	77	83	83	90	90	90	96	96	108	108	114	114	120	120
K—Location of Supply ft. in.	4-0	4-8	5-6	4-11	5-11	6-11	6-8	7-2	7-0	7-10	8-6	9-2	9-8	9-6	10-8	9-8	10-8	9-9	10-9
M—Height of Water-line in.	52	52	52	55	55	55	58½	58½	61	61	61	66	66	75	75	80	80	85½	85½
N—Height of Side Flue ft. in.	2-8	2-8	2-8	3-0	3-0	3-0	3-3	3-3	3-6	3-6	3-6	4-0	4-0	4-3	4-3	4-10	4-10	5-3	5-3
O—Diameter Breeching Connection . . in.	12	14	16	16	18	18	20	22	22	24	24	28	32	32	32	32	32	36	36
R—Height Brick Shelf in.	44	44	44	47	47	47	50	50	53	53	53	56	56	63	63	66	66	69	69
S—Top Flue Space in.	6	6	6	7	7	7	7	7	8	8	8	8	8	10	10	10	10	10	10
T—Length Brick Shelf in.	30	38	44	36	42	54	48	60	54	66	80	84	102	90	108	90	108	84	102
V—Length of Arch ft. in.	3-2	3-10	4-9	4-1	5-1	6-1	6-3	6-9	6-3	7-3	7-9	8-1	8-7	8-5	9-7	8-7	9-8	8-9	9-9
P—Anchor Bolt Centers for Ash-pit Front . . . in.	8	8	8	8	8	8	8	8	8	8	8	8	8	11	11	11	11	11	11
Q—Anchor Bolt Centers for Ash-pit Front . . . in.	30	30	30	36	33	36	42	42	48	48	48	54	54	60	60	66	65	72	72
L—Total Length ft. in.	8-7	9-8	10-8	9-8	11-2	12-8	12-7	14-1	13-1	14-7	16-1	17-0	19-6	18-7	21-1	19-1	21-1	19-5	21-5
W—Total Width ft. in.	5-0	5-0	5-0	5-6	5-6	5-6	6-0	6-0	6-6	6-6	6-6	7-8	8-2	8-2	8-8	8-8	8-8	9-2	9-2
Z—Width Double Setting ft. in.	9-3	9-3	9-3	10-3	10-3	10-3	11-3	11-3	12-3	12-3	12-3	14-3	14-3	15-3	15-3	16-3	16-3	17-3	17-3
*Number of Common Brick	1450	1600	1750	1900	2150	2400	2650	2900	3000	3300	3600	5300	5900	6500	7200	7200	7700	7700	8200
*Common Brick for Two Boilers	2450	2700	2950	3300	3750	4100	4750	5350	5400	5900	6450	8350	10350	11350	12550	12400	13450	13250	13850

*Foundations not included.

Key letters N and V apply only to boiler settings with breeching connection at front as shown on page 14.

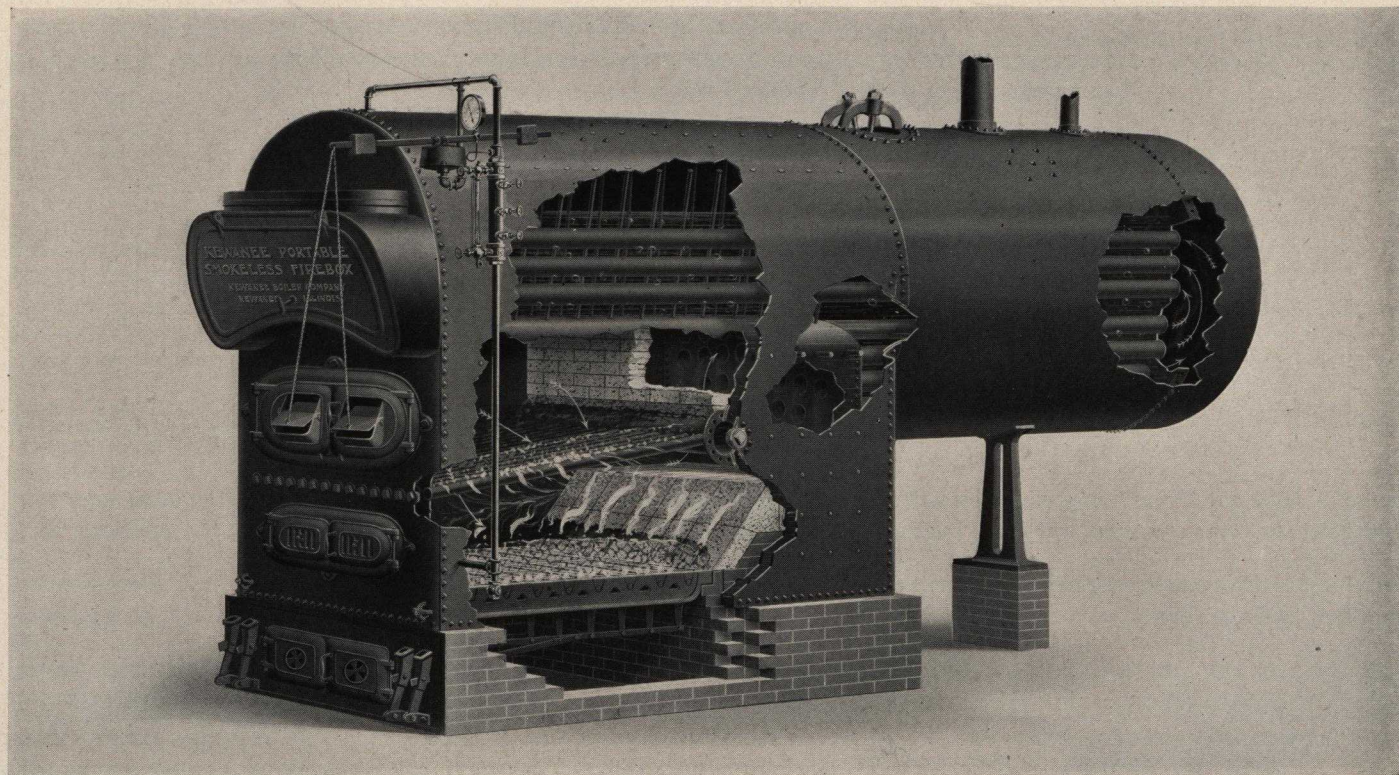
Key letters R and T apply only to boiler settings with breeching connection at rear as shown on page 15.

Note rear clean-out doors and frame furnished as regular equipment with boilers sizes 17, 18, 19 and 20.



**KEWANEE SMOKELESS
BOILER**—Portable—for Heating

BOILER No. 314 (and smaller) constructed with enlarged cylinder as above. Iron ash-pit (as illustrated) furnished with Boiler No. 309 (and smaller). Actual installations have proved conclusively that Kewanee Smokeless Boilers cut coal costs from 21 to 35 percent.



KEWANEE SMOKELESS
BOILER—*Portable—for Heating*

BOILER No. 315 (and larger) constructed as shown above. Boiler No. 310 (and larger) set on brick foundation as illustrated.

Price List **KEWANEE SMOKELESS BOILERS**—Portable Type
These Boilers will heat all the radiation shown by their capacity

*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324
Capacity, Steam sq. ft.	3000	3500	4000	4500	5000	5500	6000	6500	7500	8500	10000	12000	14000	16000	18000	20000	25000	30000
Capacity, Water sq. ft.	5000	5800	6600	7400	8300	9100	9900	10700	12400	14000	16500	19800	23100	26400	29700	33000	40000	48000
Code, Steam Boiler	Panel	Panic	Pansy	Papa	Paper	Parch	Pail	Parcel	Pardon	Park	Parole	Party	Pastry	Patrol	Pawn	Pay	Pause	Pave
Code, Water Boiler	Pelt	Penal	Pencil	Pen	Pepsin	Perch	Perfect	Peril	Period	Perish	Permit	Persue	Person	Peruse	Petal	Pestle	Petty	Pewter
List Price for Steam Boilers Maximum Working Pressure of 15 Pounds; Also for Water Boiler. Castings and Tools Included	\$1410	\$1530	\$1650	\$1850	\$1965	\$2080	\$2520	\$2730	\$3070	\$3270	\$3850	\$4080	\$4500	\$4800	\$5450	\$5800	\$7400	\$8400
Extra for Steam Trimmings	\$55	\$55	\$90	\$95	\$95	\$100	\$110	\$110	\$130	\$130	\$160	\$170	\$170	\$200	\$225	\$225	\$235	\$235
Approximate Weight, Pounds	7800	8600	9300	10400	11100	11900	14500	15300	16900	17800	20900	22900	25000	26500	28800	30000	37000	43000

Openings in fire-box for coil \$4.00 list per boiler.

Prices for steam boilers for working pressure more than fifteen pounds but not exceeding one hundred pounds will be furnished upon application.

*Scientific tests, as well as actual installations, have proved conclusively
that Kewanee Smokeless Boilers get from 21 to 35 percent more heat
from the same amount of soft coal than ordinary boilers.*

Specifications **KEWANEE SMOKELESS BOILERS**—Portable Type

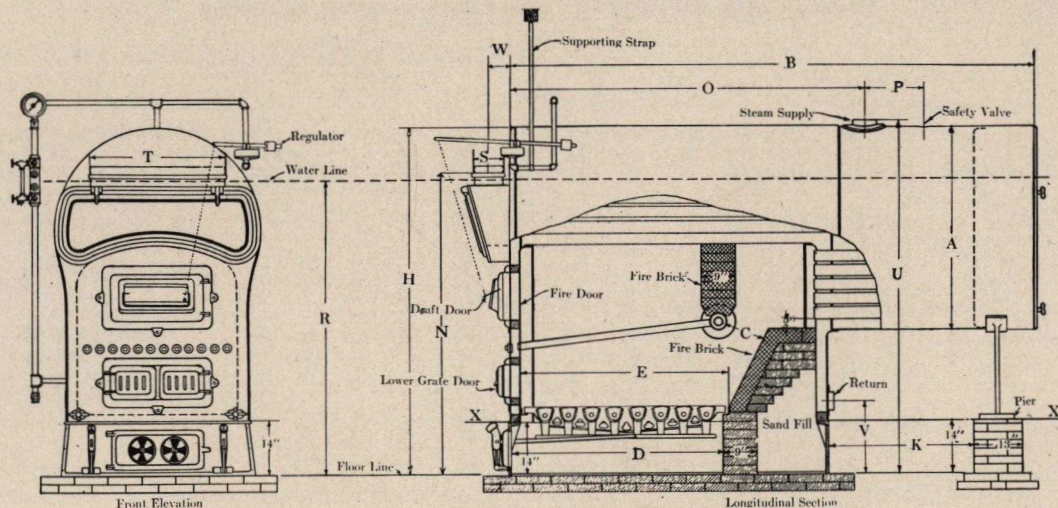
These Boilers will heat all the radiation shown by their capacity

*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324
Diameter of Boiler in.	48	48	48	54	54	54	60	60	60	60	66	66	72	72	78	78	84	84
Length of Boiler Over-all ft. in.	9-1	10-5	11-5	10-11	11-11	12-11	12-11	13-11	15-3	16-3	15-9	17-9	16-7	17-11	17-10	18-10	20-1	24-1
Width of Fire-box in.	36	36	36	42	42	42	48	48	53	53	59	59	65	65	71	71	77	77
Length of Fire-box in.	54	60	66	72	78	84	78	84	90	96	90	96	96	102	102	108	114	120
Heating Surface sq. ft.	297	352	391	446	496	546	592	643	721	773	912	1053	1204	1316	1458	1549	2074	2629
Area of Upper Grate sq. ft.	8.8	10.1	11.4	12.9	14.7	16.5	17.1	18.5	20.0	21.4	23.5	25.9	28.5	29.9	32.6	34.6	41.7	44.8
Diameter of Breeching in.	22	22	22	24	24	24	26	26	28	28	30	32	34	34	36	36	40	42
Diameter of Stack in.	20	20	20	22	22	22	24	24	26	26	28	30	32	32	34	34	38	40
Minimum Height of Stack ft.	50	55	55	55	55	60	60	60	65	65	65	70	70	70	80	90	90	100
Diameter of Breeching, Two Boilers in.	30	30	30	34	34	34	38	38	40	40	44	46	50	50	52	52	56	56
Diameter of Stack, Two Boilers in.	28	28	28	31	31	31	34	34	36	36	40	42	46	46	48	48	54	54
Minimum Height of Stack, Two Boilers ft.	60	65	65	65	65	70	70	70	75	75	75	80	80	80	90	100	100	110
Size of Steam Opening in.	6	6	6	6	6	6	7	7	7	7	8	8	8	8	8	8	10	10
Size of Return in.	4	4	4	4	4	4	5	5	5	5	6	6	6	6	6	6	6	6
Size of Safety Valve in.	3	3	3½	3½	3½	4	4	4	4½	4½	Two 3½	Two 4	Two 4	Two 4½	Three 4	Three 4	Three 4½	Four 4½
Height of Water-line in.	71	71	71	76	76	76	83	83	87	87	90	90	96	96	97	97	105	105
Height Floor to Top of Shell in.	84	84	84	89	89	89	98	98	101	101	107	107	113	113	115	115	121	121
Distance Required to Open Rear Flue Doors in.	26	26	26	28	28	28	32	32	32	32	35	35	37	37	40	40	43	43

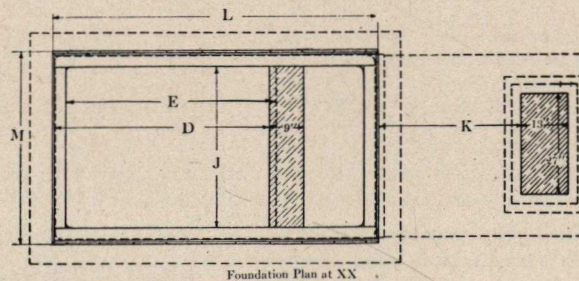
For setting plans and other measurements see pages 20, 21, 22 and 23.

Kewanee Boilers never crack, for they are built of steel.



Section **KEWANEE SMOKELESS BOILER** Showing Portable Type Setting Plan

Note: Boilers Nos. 310, 311, 312, 313, and 314 are constructed with bell top as shown above, but are set on brick foundation instead of cast iron base as shown.



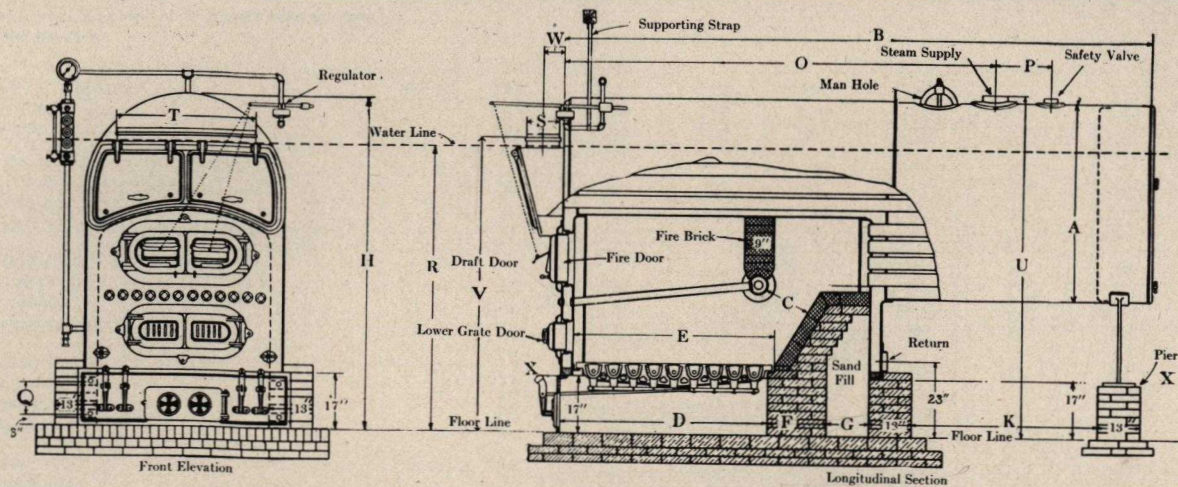
Setting Measurements **KEWANEE SMOKELESS BOILER**—Portable Type

Number of Boiler	307	308	309	310	311	312	313	314
A—Diameter Boiler in.	48	48	48	54	54	54	60	60
B—Length Boiler ft. in.	9-1	10-5	11-5	10-11	11-11	12-11	12-11	13-11
E—Length Grate in.	37	43	49	49	55	61	55	61
C—Header to Bridge Wall in.	9	10	11½	11	12½	14	12½	14
D—Length Ash-pit in.	38	44	50	50	56	62	56	62
F—†Thickness Bridge Wall in.	9	9	9	13	13	13	13	13
G—†Bridge Wall to Rear Wall in.				12	12	12	12	12
K—Ash-pit to Pier in.	29	39	45					
K—Rear Wall to Pier in.				27	33	39	45	51
J—Width Ash-pit in.	37	37	37	43	43	43	49	49
M—Width Foundation in.	46	46	46	60	60	60	66	66
L—Length Base in.	61	67	73	84	90	96	90	96
H—Height Boiler in.	84	84	84	89	89	89	98	98
U—Height Supply in.	85	85	85	90	90	90	99	99
V—Height of Return in.	19	19	19	19	19	19	20	20
R—Height Water-line in.	71	71	71	76	76	76	83	83
N—Height of Breeching Connection in.	76	76	76	80	80	80	88	88
O—Location Supply ft. in.	5-11	6-8	7-3	7-6	8-2	8-9	8-9	9-3
P—Location Safety Valve in.	12	14	14	13	13	15	15	18
Q—†Anchor Bolt Centers for Ash-pit Front in.				8	8	8	8	8
W—Center Breeching Connection to Front of Boiler in.	8	8	8	8	8	8	9¼	9¼
S—Width Breeching Connection in.	10	10	10	10	10	10	12½	12½
T—Length Breeching Connection in.	36	36	36	42	42	42	46	46
Y—†Anchor Bolt Centers for Ash-pit Front in.				48	48	48	54	54
*Number Common Brick	200	200	200	800	825	850	1025	1050
Number Fire-brick	115	115	115	155	155	155	195	195
Outside Surface to be Covered sq. ft.	148	157	173	184	212	221	255	265

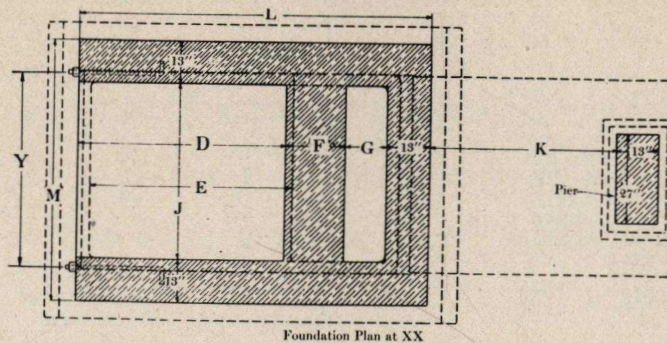
*Foundations not included.

†For key letters F and G, Q and Y see setting plan on page 22.

Kewanee Smokeless Boilers will burn any grade of soft coal smokelessly.



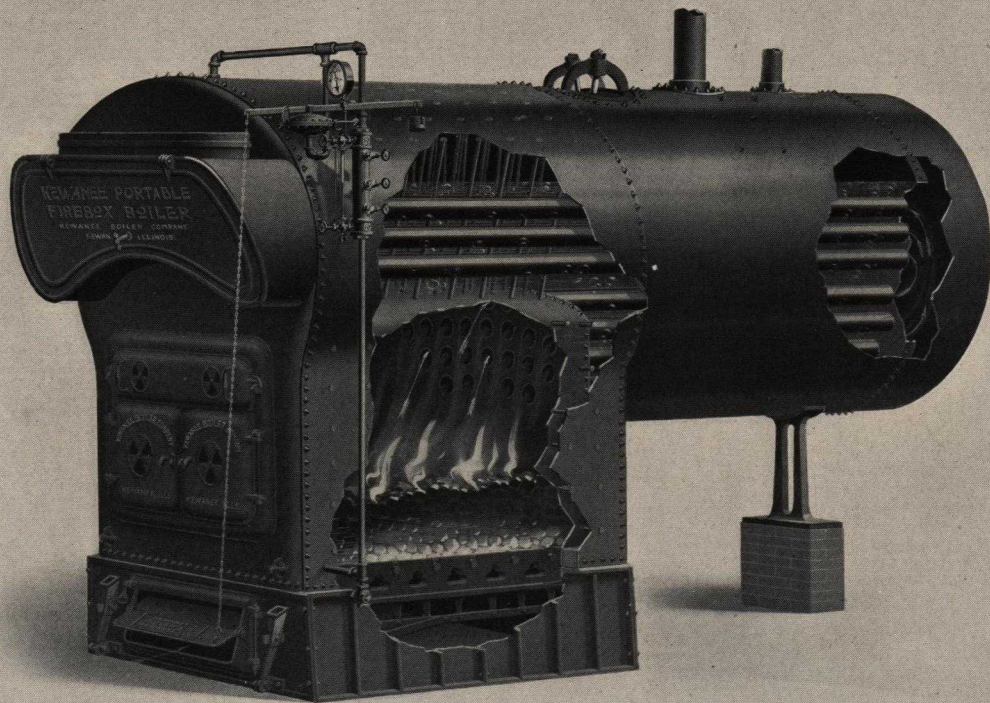
Section **KEWANEE SMOKELESS BOILER**
Showing Portable Type Setting
Plan and Foundation



Setting and Foundation Measurements **KEWANEE SMOKELESS BOILER**—Portable Type

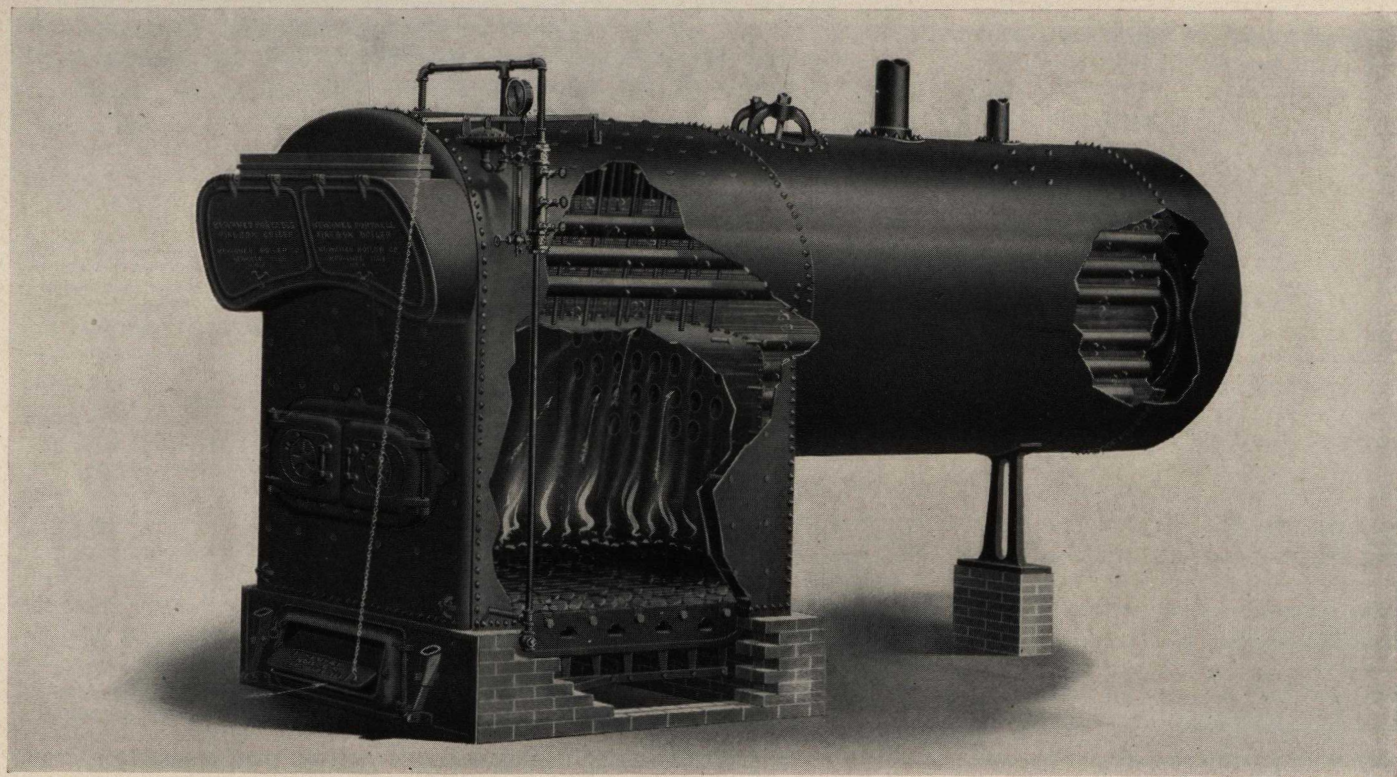
Number of Boiler	315	316	317	318	319	320	321	322	323	324
A—Diameter Boiler in.	60	60	66	66	72	72	78	78	84	84
B—Length Boiler ft. in.	15-3	16-3	15-9	17-9	16-7	17-11	17-10	18-10	20-1	24-1
E—Length Grate in.	61	67	61	67	67	73	73	73	79	85
C—Header to Bridge Wall . . . in.	14	15	15	16	16	17	17	18	18	19
D—Length Ash-pit in.	63	69	63	69	69	75	75	75	81	87
F—Thickness Bridge Wall . . . in.	18	18	18	18	18	18	18	18	18	18
G—Bridge Wall to Rear Wall . . in.	13	13	13	13	13	13	13	19	19	19
K—Rear Wall to Pier in.	57	63	62	80	63	74	72	79	84	126
J—Width Ash-pit in.	53	53	59	59	65	65	71	71	77	77
M—Width Foundation in.	79	79	85	85	91	91	97	97	103	103
L—Length Foundation in.	107	113	107	113	113	119	119	125	131	137
H—Height Boiler in.	101	101	107	107	113	113	115	115	121	121
U—Height Supply in.	103	103	109	109	115	115	117	117	123	123
V—Height Breeching Connection, in.	90	90	93	93	100	100	101	101	109	109
R—Height Water-line in.	87	87	90	90	96	96	97	97	105	105
O—Location Supply ft. in.	10-11	11-6	11-0	11-9	11-7	12-2	12-2	12-9	13-8	15-0
P—Location Safety Valve . . . in.	16	18	16	18	15	18	15	16	18	20
Q—Anchor Bolt Centers for Ash-pit Front in.	11	11	11	11	11	11	11	11	11	11
W—Center Breeching Connection to Front of Boiler in.	9 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	13	13
S—Width Breeching Connection in.	12 $\frac{1}{2}$	12 $\frac{1}{2}$	15	15	17	17	17	17	20	20
T—Length Breeching Connection in.	46	46	50	50	54	54	60	60	64	64
Y—Anchor Bolt Centers for Ash-pit Front in.	60	60	66	66	72	72	78	78	84	84
*Number Common Brick	1300	1350	1300	1350	1375	1450	1400	1475	1575	1600
Number Fire Brick	210	215	240	240	255	255	290	315	425	425
Outside Surface to be Covered sq. ft.	266	280	290	330	335	360	370	400	455	545

*Foundations not included.



KEWANEE BOILER
Portable—for Heating

BOILER No. 414 (and smaller) made with enlarged cylinder as shown above.
 Iron ash-pits (as illustrated) furnished with Boiler No. 409 (and smaller).



KEWANEE BOILER
Portable—for Heating

BOILER No. 415 (and larger) made as shown above. Boiler
 No. 410 (and larger) set on brick foundation as illustrated.

Price List **KEWANEE BOILERS**—Portable Type

These Boilers will heat all the radiation shown by their capacity

*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424
Capacity, Steam sq. ft.	2500	2900	3500	4000	4500	5000	5500	6000	7000	8000	9500	11000	13000	15000	17500	20000	25000	28000
Capacity, Water* sq. ft.	4100	4800	5800	6600	7400	8300	9100	9900	11600	13200	15700	18200	21500	24800	28500	32000	40000	45000
Code, Steam Boiler	Pipe	Plaid	Plank	Plat	Plaza	Plead	Place	Plod	Plain	Plunge	Plush	Poet	Point	Polar	Planet	Pledge	Pluck	Plump
Code, Water Boiler	Prime	Prince	Print	Prism	Proud	Prone	Proxy	Psalm	Pulp	Punch	Pulse	Pure	Purge	Pyre	Pride	Prank	Puff	Pun
List Price for Steam Boilers Maximum Working Pressure of 15 Pounds; Also for Water Boiler. Castings and Tools Included	\$1115	\$1200	\$1320	\$1485	\$1595	\$1705	\$2100	\$2300	\$2650	\$2850	\$3400	\$3640	\$4100	\$4400	\$5300	\$5780	\$6870	\$7370
Extra for Steam Trimmings	\$40	\$45	\$45	\$85	\$85	\$85	\$105	\$105	\$105	\$125	\$150	\$160	\$200	\$200	\$220	\$220	\$230	\$230
Approximate Weight, Pounds	6900	7400	8300	9000	9800	10600	13200	14100	15900	17300	20400	22000	24000	25700	28000	31000	37000	40000

Openings in fire-box for coil \$4.00 list per boiler.

Prices for steam boilers for working pressure more than fifteen pounds but not exceeding one hundred pounds will be furnished upon application.

*Kewanee Boilers go into the building in one piece. Every joint and seam
is firmly riveted at the factory by men who do nothing else and have
done nothing else for years and years.*

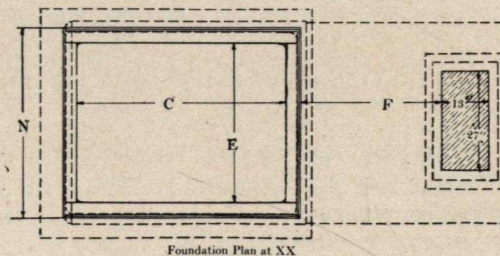
Specifications **KEWANEE BOILERS**—Portable Type
These Boilers will heat all the radiation shown by their capacity

*Built in accordance with American Society
Mechanical Engineers Code of Boiler Rules*

Number of Boiler		407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424
Diameter of Boiler in.		48	48	48	54	54	54	60	60	60	60	66	66	72	72	78	78	84	84
Length of Boiler ft. in.		8-7	9-6	11-1	10-0	11-1	12-1	12-5	13-7	14-4	16-2	15-9	17-4	15-11	17-6	17-11	19-11	20-1	22-1
Width of Fire-box in.		36	36	36	42	42	42	48	48	53	53	59	59	65	65	71	71	77	77
Length of Fire-box in.		38	44	50	44	50	56	56	62	56	62	62	68	68	74	74	80	80	86
Height of Fire-box in.		41½	41½	41½	44	44	44	49	49	49	49	52	52	54½	54½	55	55	58	58
Heating Surface sq. ft.		278	310	373	416	465	515	565	626	676	778	929	1040	1168	1303	1514	1711	2209	2427
Area of Grate sq. ft.		9.6	11.1	12.6	12.9	14.7	16.5	18.8	20.8	20.7	22.9	25.5	28.0	30.8	33.5	36.6	39.6	42.9	46.1
Diameter of Breeching in.		22	22	22	24	24	24	26	26	28	28	30	32	34	34	36	36	40	42
Diameter of Stack in.		20	20	20	22	22	22	24	24	26	26	28	30	32	32	34	34	38	40
Minimum Height of Stack ft.		50	50	55	55	55	60	60	60	65	65	65	70	70	70	80	90	90	100
Diameter of Breeching, Two Boilers in.		30	30	30	34	34	34	38	38	40	40	44	46	50	50	52	52	56	56
Diameter of Stack, Two Boilers in.		28	28	28	31	31	31	34	34	36	36	40	42	46	46	48	48	54	54
Minimum Height of Stack, Two Boilers ft.		60	60	65	65	65	70	70	70	75	75	75	80	80	80	90	100	100	110
Size of Steam Opening in.		6	6	6	6	6	6	7	7	7	7	8	8	8	8	8	8	10	10
Size of Return in.		4	4	4	4	4	4	5	5	5	5	6	6	6	6	6	6	6	6
Size of Safety Valve in.		2½	3	3	3½	3½	3½	4	4	4	4½	Two 3½	Two 4	Two 4½	Two 4½	Two 4½	Three 4	Three 4½	Four 4
Height of Water-line in.		71	71	71	76	76	76	83	83	87	87	90	90	96	96	97	97	105	105
Height Floor to Top of Shell in.		84	84	84	89	89	89	98	98	101	101	107	107	113	113	115	115	121	121
Distance Required to Open Rear Flue Doors . . . in.		26	26	26	28	28	28	32	32	32	32	35	35	37	37	40	40	43	43

More than 500 U. S. postoffice buildings are heated with Kewanee Boilers.

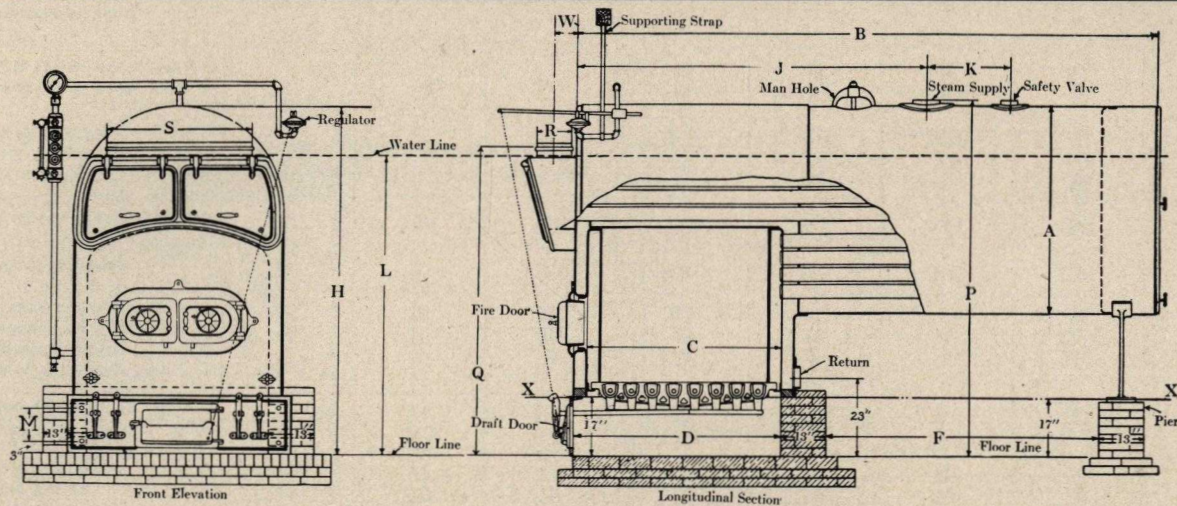
Note: Boilers Nos. 410, 411, 412, 413, and 414 are constructed with bell top as illustrated above but are set on brick base instead of cast iron ash-pit.



Setting Measurements **KEWANEE BOILER**—Portable Type

Number of Boiler	407	408	409	410	411	412	413	414
A—Diameter of Boiler in.	48	48	48	54	54	54	60	60
B—Length of Boiler ft. in.	8-7	9-6	11-1	10-0	11-1	12-1	12-5	13-7
C—Length of Fire-box in.	38	44	50	44	50	56	56	62
D—Length of Ash-pit in.	45	51	57	These measurements for boilers 410, 411, 412, 413 and 414 given at bottom of page.				
N—Width of Ash-pit Base . . . in.	45	45	45					
E—Width of Fire-box in.	36	36	36					
F—Ash-pit Base to Pier . . . ft. in.	3-3	3-8	4-9					
G—Height Breeching Connection, in.	76	76	76	80	80	80	88	88
H—Height of Boiler in.	84	84	84	89	89	89	98	98
P—Height of Steam Supply . . . in.	85	85	85	90	90	90	99	99
Q—Height of Return in.	19	19	19	19	19	19	20	20
L—Height of Water-line . . . in.	71	71	71	76	76	76	83	83
J—Location Steam Supply . . ft. in.	4-8	5-3	6-3	5-6	6-4	8-0	8-3	8-8
K—Location Safety Valve . . ft. in.	13	14	18	16	18	13	16	18
W—Center of Breeching Connection to Front of Boiler . . . in.	8	8	8	8	8	8	9 $\frac{1}{4}$	9 $\frac{1}{4}$
R—Width Breeching Connection in.	10	10	10	10	10	10	12 $\frac{1}{2}$	12 $\frac{1}{2}$
S—Length Breeching Connection in.	36	36	36	42	42	42	46	46
*Number Common Brick	70	70	70	450	480	510	530	560
Outside Surface to be Covered, sq. ft.	115	130	150	155	175	185	190	220
D—Length of Ash-pit in.	For key letters D, E, F, M and T pertaining to these sizes see page 30.			47	53	59	59	65
E—Width of Ash-pit in.				43	43	43	49	49
F—Ash-pit Wall to Pier . . . ft. in.				3-9	4-4	4-10	5-2	5-10
M—Center to Center Anch. Bolts, in				8	8	8	8	8
T—Center to Center Anch. Bolts, in				48	48	48	54	54

*Foundations not included.



Section **KEWANEE BOILER**—Showing
Portable Type Setting Plan
and Foundation

Foundation Plan at XX.

Setting and Foundation Measurements **KEWANEE BOILER**—Portable Type

Number of Boiler	415	416	417	418	419	420	421	422	423	424
A—Diameter of Boiler in.	60	60	66	66	72	72	78	78	84	84
B—Length of Boiler ft. in.	14-4	16-2	15-9	17-4	15-11	17-6	17-11	19-11	20-1	22-1
C—Length of Fire-box in.	56	62	62	68	68	74	74	80	80	86
D—Length of Ash-pit in.	60	66	66	72	72	78	78	84	84	90
E—Width of Ash-pit in.	53	53	59	59	65	65	71	71	77	77
F—Ash-pit Wall to Pier ft. in.	6-7	7-11	7-5	8-5	6-11	7-11	8-4	9-10	9-10	11-4
H—Height of Boiler in.	101	101	107	107	113	113	115	115	121	121
P—Height of Steam Supply in.	103	103	109	109	115	115	117	117	123	123
Q—Height of Breeching Connection . . in.	90	90	93	93	100	100	101	101	109	109
L—Height of Water-line in.	87	87	90	90	96	96	97	97	105	105
J—Location Steam Supply ft. in.	8-5	9-5	9-4	10-2	9-8	11-1	11-3	12-0	12-6	12-6
K—Location Safety Valve ft. in.	21	27	18	30	18	24	24	30	24	21
W—Center of Breeching Connection to Front of Boiler in.	9 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	11 $\frac{1}{2}$	13	13
R—Width of Breeching Connection . . in.	12 $\frac{1}{2}$	12 $\frac{1}{2}$	15	15	17	17	17	17	20	20
S—Length of Breeching Connection . . in.	46	46	50	50	54	54	60	60	64	64
M—Center to Center of Anchor Bolts . in.	11	11	11	11	11	11	11	11	11	11
T—Center to Center of Anchor Bolts . in.	60	60	66	66	72	72	78	78	84	84
*Number of Common Brick	680	710	740	760	790	820	840	885	900	935
Outside Surface to be Covered . . . sq. ft.	250	280	290	310	315	345	385	425	455	505

*Foundation not included.



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